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p 125. Ascomycetes
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NEW OR RARE FUNGI FROM VARIOUS LOCALITIES

BY

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By Charles Edward Fairman.

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Introduction.

About forty years ago the author undertook the study of Mycology. Having some unemployed time on his hands, as a young practitioner of medicine, he was induced to do this after reading Cooke's advice, in Fungi, vol. XV, International Scientific Series, 1883, p. 294, where he says: "In conclusion, we may urge upon all those who have followed us thus far to adopt this branch of botany as their specialty. Hitherto it has been very much neglected, and a wide field is open for investigation and research. The life-history of the majority of species has still to be read, and the prospects of new discoveries for the industrious and persevering student are great. All who have as yet devoted themselves with assiduity have been in this manner rewarded. The objects are easily obtainable, and there is a constantly increasing infatuation in the study." After the lapse of many years the author is convinced that Cooke spoke true words, words which are just as true at the present time as when first written. In order to record some of his observations the author has published articles, a list of which can be found in the attached list of writings. The present paper is in continuation of these studies, and as a majority of the species mentioned were

found in Western New York, publication was fittingly assumed by the Rochester Academy of Science. Some of the hyphomycetous forms were submitted to the inspection of Miss Annie Lorrain Smith of the British Museum of Natural History, but the author, alone, is responsible for the descriptions.

New Species, Series I.

DEUTEROMYCETES.

1. **Phomopsis rubiseda** sp. nov.

Pycnidia scattered, immersed becoming erumpent and protruding through pustular elevations of the epidermis, globose, black, 300 μ in diam.; spores fusoid, continuous, at times guttulate, hyaline, 10–12 x 2–2.5 μ, borne on hyaline sporophores which are 17–20 μ long.

On dead branches of *Rubacer odoratum* (L.) Rydb., Lyndonville, N. Y., June 10, 1918, C. E. Fairman. Spores narrower than those of *P. insignis*. It may be an imperfect stage of *Diaporthe obscura* (Pk.) Sacc. Mr. Roy Latham sends a *Phomopsis* from Orient, N. Y., no. 425 collected on *Rubus phoenicolasius* Maxim, Apr. 18, 1915, which has pycnidia 65–100 μ in diam. and spores 9–12 x .05–1 μ borne on slender hamate sporophores 20–24 μ long. On March 16, 1916 Mr. Latham collected his no. 811 at Orient, N. Y. on *Rubus procumbens* Muhl. which proves to be another *Phomopsis* with fusoid, guttulate, hyaline spores 6–7 x 1.5–2 μ which seems referable to *Phomopsis vepris* (Nitschke) Trav. but the Orient specimens have smaller pycnidia and more slender spores. Cultural studies are needed to clear up the variability in the species of *Phomopsis on Rosaceae*.

2. **Phomopsis fraterna** sp. nov.

Pycnidia numerous, clustered on more or less discolored areas, immersed then erumpent and elevating the epidermis in a pustuliform manner, black, minute; spores fusoid, acute at ends, granular, 2–guttulate, hyaline, 10–17.5 x 3–3.5 μ, borne on long, stout, hyaline sporophores.

On branchlets of *Quercus rubra* L., Lyndonville, N. Y., June, 1918, C. E. Fairman. Host det. by W. E. Safford, Acting Botanist, U. S. Agric. Department.

3. **Phomopsis Trollii** sp. nov.

Pycnidia thickly scattered, immersed then erumpent, globose, black, minute; spores fusoid, biguttulate, hyaline, 7–9 x 3μ, on long sporophores.

On *Trollius* sp., Lyndonville, N. Y., Nov. 2, 1917, C. E. Fairman.

4. **Dendrophoma nigrescens** sp. nov.

Pycnidia thickly scattered over the blackened surface of the decorticated wood or in recesses thereof, erumpent superficial, globose, black, 80–250 and upwards in diam.; sporophores much branched, dendroid, fasciculate-ramose or even subverticillate, the ultimate branches usually exceeding 20 μ in length; spores numerous, ellipsoid or fusoid, hyaline, 2–3 x 0.5–1 μ.

On decorticated surfaces of branches of *Ilex bronxensis* Britt. Lyndonville, N. Y., June, 1918. Host det. by Dr. N. L. Britton. The same thing occurs also on branches of dead *Rhus glabra* L., L., Lyndonville, N. Y., June, 1918, C. E. Fairman.

This should not be confused with the various species of Phoma which have been listed on Ilex. *Phoma ilicicola* (C. & E.) Sacc has spores 10–12 x 6–7 μ, *Phoma ilicella* Sacc. & Penz. 20–26 x 6–7 μ, *Phoma Ilicis* Desm with spores 12–15 X 3 and the var. *Ilicis opacae* found in Carolina by Ravenel affords spores 18 x 2.5 μ.

5. **Sphaeronema epicaulon** sp. nov.

Pycnidia superficial, running in parallel lines in the depressions between the longitudinal ridges of the stems, 330–500 μ in diam., globose depressed, often collapsing, minutely rostellate, the rostrum often becoming deciduous and inconspicuous and the pycnidia subperforate, dull black, shining at the apex; spores oblong, rounded at the ends, with a small shining oil drop in each extremity, hyaline or greenish hyaline, 7–13 x 6 μ; basidia very short.

On old stems of hollyhock, *Althaea rosea*, Lake Ontario Shore Road, Lyndonville, N. Y., Oct. 1917, C. E. Fairman. Differs from *S. minutulum* D. Sacc. and *S. herbarum* Ferr. in larger guttulate spores and manner of growth.

6. **Cytospora Nyssae** sp. nov.

Stromata immersed then pustuliform—erumpent, radiate-pluri-locular, 750 μ and upwards in diam.; loculi immersed in the stroma, averaging 100 μ high and 250 μ in breadth; spores allantoid, hyaline, 6–7 x 1–1.5 μ, developed on moderately long sporophores.

On branches of *Nyssa sylvatica* Marsh, Lyndonville, N. Y., June, 1918, C. E. Fairman.

7. **Sphaeropsis subconfluens** sp. nov.

Pycnidia very thickly scattered over the surface of small branches of the host, globose or globose-depressed, opening by a central, rounded pore, the pore surrounded by a wide zone of dark colored cells, brown or black, 100–200 μ in diam; spores rounded

or ellipsoid, continuous, brown, 17.5–27 x 10–17.5 μ; basidia not clearly made out but apparently short, stout and hyaline.

On dead branches of *Akebia quinata,* Lyndonville, N. Y., Apr. 1916, C. E. Fairman.

8. **Sphaeropsis Opuntiae** sp. nov.

Pycnidia thickly scattered over whitened areas, globose, immersed then erumpent, often protruding through or surrounded by thin white scales of the loosened epidermis, black, minute; spores oblong or ellipsoid, simple, continuous, hyaline at first becoming brown, 20–27 x 10–13.3 μ and probably borne on stout basidia.

On *Opuntia Opuntia,* Orient, N. Y., June 1919, Roy Latham, no. 1807 in part.

9. **Coniothyrium praeclarum** sp. nov.

Pycnidia immersed then erumpent, elevating the epidermis in a pustuliform manner, the apex of the pustule becoming dehiscent and the erupting fungus appearing subsuperficial, scattered, globose depressed, black, about 500 μ in diam.; spores very numerous, narrowly ellipsoid, hyaline at first becoming bright copper brown to pale brown, prominently 1–3 guttulate, or ocellate-guttulate, about 10–17 x 4–6 μ.

On small dead stems (of grass or at times, probably, of grape vine tendrils) twining around stems of *Equisetum,* North Ridgeway, N. Y., Oct. 1917, C. E. Fairman. Owing, probably to a difference in color and consistency, the guttae stand out prominently and this feature together with the bright coppery color of the fresh spores makes our species a beautiful Coniothyrium.

10. **Ascochyta Tecomae** Sacc. Sacc. Syll. 2:38 and 3:395.

As this is not noted in the North American Ascochytae of Dr. J. J. Davis, a description of the species as it occurs with us is appended.

Pycnidia scattered, on more or less whitened areas of the bark, at first covered by a thin epidermal layer, then becoming superficial, finally more or less exposed by the scaling off of the bark epidermis, readily detachable and then leaving a narrow brown ring of stained tissue, globose depressed, with a minute central ostiolum, composed of thin walled, delicate cells, brown or blackish, 100–150 μ in diam.; spores numerous, oblong, rounded at the ends, uniseptate at first, slightly constricted at the septum, granular or nucleolate, greenish hyaline, 6–10 x 3–4 μ.; basidia not seen.

On dead branchlets of *Tecoma radicans* (L.) D. C., Millers, N. Y., March 24, 1918, C. E. Fairman. With age the larger spores sometimes become 2-septate and the species approaches *Stagonos-*

poropsis. Cfr. Diedicke, Die Abteilung Hyalodidymae der Sphaerioideen in Ann. Mycol. 10: 142.

11. **Didymochaeta columbiana** sp. nov.

Pycnidia scattered on blackened areas at the base of the stems, immersed becoming erumpent and subsuperficial, finally more or less exposed by the falling away of the external cortical layers, globose or globose depressed, opening by a central pore 7 μ in diam., markedly setulose, brown or black, about 200–220 μ in diam.; pycnidial setae numerous, rigid, irregular to subnodulose at the sides, straight or slightly curved, brown, subhyaline toward the obtusely rounded tips, 50–100 μ in height, 3–4 μ in width; basidia not seen; spores numerous, oblong ellipsoid, rounded at the ends, uniseptate, not noticeably constricted at the septum, hyaline or subhyaline, yellowish when massed, 10–14 x 3.5–4.5 μ.

On old overwintered stems of *Chenopodium vulvaria* L., May 22, 1918, Lyndonville, N. Y., C. E. Fairman. Host det. by Paul C. Standley. The host is an adventive and has not before been listed from this locality. The spores of *Didymochaeta Americana* Sacc. & Ellis are said to be broadly constricted and narrowed in the middle.

12. **Microdiplodia ilicigena** sp. nov.

Pycnidia gregarious, immersed in the bark, finally erumpent through the elevated surface, globose, black, 400–500 μ in diam.; spores ellipsoid, rounded at the ends, uniseptate, slightly constricted at the septum, brown, 6–9 x 3.33–4 μ; basidia inconspicuous.

On small branches of *Ilex bronxensis* Britton, Lyndonville, N. Y., May 1918, C. E. Fairman.

Diplodia ilicicola Desm. has spores 20–25 x 9–10 μ and *Diplodia Ilicis Fr.* (D. *aquifolii* West.) has spores 20–24 x 12–14 μ.

13. **Diplodia thuyana** P. & C. ?

On cultivated *Retinospora,* Lyndonville, N. Y., June, 1918, C. E. Fairman.

The following characteristics were noted: pycnidia globose, or 2–3 aggregated in a white stroma, 500 μ in diam.; spores carried on stout, short, club shaped basidia, ellipsoid or obovate, 1-septate, constricted at the septum, brown, 20–25 x 10–14 μ. Socia Cytispora with allantoid, hyaline spores, 7–9 x 1 μ.

Diplodia thuyana P. & C. is described as having spores 16–23 μ long. Saccardo notes a form found in Italy which he calls var. *B Thuyae orientalis* and considers *D. Thuyae* Sacc. in Mich. (nec West.) a synonym. This has the pycnidia gregarious or subaggregated with spores 20–25 x 10 μ. *Diplodia Thuyae* West. is in-

sufficiently described. *Diplodia Otthiana* Sacc. & Syd. is a name given in the Sylloge to *D. Thuyae* Otth., and is said to afford spores 20 x 9 μ and no pycnidial stroma. The Lyndonville specimens on *Retinospora* seem referable to *Botryodiplodia* but in the face of so many Diplodiae noted above we are unwilling to call it a new species.

14. **Stagonospora nyssaecola** sp. nov.

Pycnidia immersed, becoming erumpent through the epidermis which is variously lacerated, rounded, elongated or irregular in shape, externally black, contents white or greenish yellow, 500–1000 μ in diam; spores fusoid, at times soleiform, straight or variously curved, often inequilateral, acute or subacute at the ends, 1–3 septate, not markedly constricted, hyaline at first becoming greenish or pale yellow, sometimes granular or guttulate, 17–25 x 5–7 μ, borne on stout hyaline sporophores 10–20 μ long.

On small branches of *Nyssa sylvatica* Marsh, Lyndonville, N. Y., June, 1918, C. E. Fairman.

15. **Hendersonia Arundinariae** sp. nov.

Pycnidia thickly scattered erumpent superficial, globose or globose depressed, 150 μ high, 250 μ broad, black; spores numerous, oblong cylindric, straight or surved, ends obtusely rounded, at times attenuated and subtruncate, 3-septate, not constricted, guttulate, brown, 10–17.5 x 6–7 μ; basidia stout, short, hyaline about as broad as the spores.

On a fragment of an old cane fishpole, *Arundinaria macrosperma* Michx., lying on the ground, Lyndonville, N. Y., May, 1916, C. E. Fairman.

16. **Rhabdospora ilicigena** sp. nov.

Pycnidia scattered or gregarious, erumpent superficial, globose or globose depressed, often flattened at the apices, black, 200–300 μ in diam.; spores numerous, filiform, fusoid elongate, curved or crescentic, with numerous uniseriate guttulae, hyaline, 30–40 x 3–.5 μ, sessile or on very short basidia which are intricately interwoven at base into a dark brown subbasidial layer, slightly spreading at the sporiferous apices.

On small branches of *Ilex bronxensis* Britton, Lyndonville, N. Y., June, 1918, C. E. Fairman.

17. **Rhabdospora cryptosporopsis** sp. nov.

Pycnidia gregariously nestling beneath the pustuliform-raised epidermis, subglobose, black, minute; spores straight, at times curved, subarcuate or bent at one extremity, 17–35 x 0.5–1 μ, apparently borne on hyaline sporophores.

On a fallen branch of Platanus, Ridgeway Corners, N. Y., March, 1918, C. E. Fairman. This has the spores of a Rhabdospora, but the ill defined pycnidia approach Cryptosporium.

Gamonaemella gen. nov.

Pycnidia separate, superficial, globose or globose-conoid, subcarbonaceous, minute, black, destitute of hairs or setae; spores hyaline, filiform or elongated bacillar, multiguttulate, becoming multilocular, connate, multiradiate and stellate in fascicles of 3–5 or upward.

18. **Gamonaemella divergens** sp. nov.

Pycnidia scattered or gregarious, adnate-superficial or with the base slightly sunk in the matrix, globose or globose-conoid, with minute central papilliform ostiola, subrugose, black, 300–500 μ in diam.; spores filiform or elongated bacillar, subacute at the apices, 3 to several stellate-radiate, connate, multiguttulate, becoming multilocular, hyaline or subhyaline, 60–150 μ between the distal extremities, with the single arms or radii averaging 30–80 μ in length 1.5–2.5 μ in width.

On a fragment of an old cane fish pole lying on the ground, *Arundinaria macrosperma* Michx., Lyndonville, N. Y., May 15, 1916, C. E. Fairman. No difference in the structure of any of the radiating arms could be discerned, but the lowest one may be the basidium. The arms seem to be folded down along the sides of the basidium and to expand and spread outside the pycnidia. *Gamonaemella* may be differentiated from *Gamospora* by not having hairy pycnidia, and from *Eriospora* and *Gamosporella* in not having the pycnidia in a stroma. With the latter three genera it seems worthy of being placed in a special new section *Gamoscoleciae,* belonging to the scolecosporous *Sphaeropsideae.*

19. **Leptostroma Mitchellae** sp. nov.

Pycnidia gregarious or scattered, membranaceous, of loose cellular structure, subdimidiate, translucent when young, elongate, lengthwise cleft, often incomplete, multilacerate or cracked on top, brown or black, 100–175 μ in length; basidia stout, cylindric, often with uneven or irregularly contracted walls, slightly dilated at the base, 1–2 μ in width and from two to three times as long as the spores; spores cylindric, rounded at the ends, simple, continuous, hyaline, 7–10 x 1.5–2 μ.

On dead stems of *Mitchella repens* L., Orient, N. Y., May, 1916, Roy Latham.

20. **Heteropatella acerina** sp. nov.

Pycnidia gregarious, at first spherical, becoming widely opened and patellate, when dry irregularly contracted, 250–750 μ in diam.,

black; basidia simple or branched, hyaline, 17–30 x 2 μ; spores carried on the ends of the basidia, fusoid-oblong, hyaline, 5–7 x 1.5–2 μ.

On the blackened surface of a decorticated branch of *Acer*, Yates Center, Orleans County, N. Y., April, 1919, C. E. Fairman.

21. **Discella zythiacea** sp. nov.

Pycnidia scattered, erumpent or depressed-stictoid, becoming superficial, varying in diameter from a minute point up to 300 μ, globose becoming disciform, at first closed then opening and exposing a pale red to flesh colored disc of soft texture, with an irregular margin which is not markedly dentate or fimbriate, externally brown or black; spores numerous, ellipsoid, uniseptate, not constricted at the septum, rounded at the ends, hyaline, 6.66–11 x 2.5–.33 μ.; basidia not seen.

On a fallen decorticated branch of *Robinia pseudacacia*, Lyndonville, N. Y., March, 1919, C. E. Fairman.

22. **Didymosporium propolidioides** sp. nov.

Acervuli scattered on whitened areas of the decorticated wood, suberumpent, punctiform at first becoming hysteriiform-elongated, finally more or less open, running parallel with the wood fibres, black, 250–1000 μ in length; spores numerous, ellipsoid, often irregular, uniseptate, constricted at the septum, brown, 6–7 x 3.5 μ.

On old decorticated cedar (*Juniperus*) stump, Orient, N. Y., Mat. 1917, Roy Latham no. 852.

Basidia were not seen. The spores become at times 2-septate. I am indebted to Prof. Dearness for the suggestion that this might be a *Didymosporium*. It may be said to occupy ground between the *Dematiaceae* and *Melanconiaceae*.

23. **Scolecosporium transversum** sp. nov.

Acervuli at first immerse and pustuliform, becoming transversely erumpent, finally embraced by the ruptured and elevated epidermis which splits longitudinally, black, 500–1250 μ in length; spores oblong-fusoid, rounded at one end, hyaline, apiculate at the other, 3–5-septate, not markedly constricted, inner cells brown, end cells hyaline or subhyaline, 20–30 x 10 μ borne on the ends of long simple or branched, hyaline, thickly interwoven sporophores which are from 30–75 μ long.

On bark of the root of a pear tree, Lyndonville, N. Y., March, 1918, C. E. Fairman.

24. **Graphium sordidiceps** sp. nov.

Synnemata gregarious or scattered, erect, subvillose, firm, monocephalous, 650–1000 μ in height; stipe white, cylindric, arising from a round white base which persists after the falling away of the stipe, dilated at the base, tapering gradually upwards to the

capitulum, 350 μ wide at the base, formed of interwoven, difficultly separable, hyaline, septate hyphae which are about 3.5–4 μ in width, bearing at the apex a globose, olivaceous, dirty brown or sordid capitulum; capitulum about 300 μ high and 280 μ wide; spores obovate to flask-shaped, hyaline, 7–8 x 3.5–4 μ.

At the junction of the trunk and root of a shrub of *Lonicera* growing on the bank of Johnson Creek, Lyndonville, N. Y., June 16, 1918, Fairman, Wright and Gray.

The earth had to be removed to secure the fungus. Probably comes near to *Graphium pruinosipes* (Peck) Sacc. but no spore measurements are given in the original description in Rep. N. Y. State Mus. p. 28. Our species seems distinct in its differently shaped, and probably larger spores.

ASCOMYCETES.

25. **Anthostomella endoxyloides** sp. nov.

Perithecia sunken in the wood, overlaid by a black, discolored, clypeiform surface, globose, with thick, Massaria-like walls, 300–500 μ in diameter, averaging about 350 μ; asci cylindric, sessile or short stipitate, 6–8 spored, 83–127 x 10–12 μ, paraphysate; sporidia irregularly biseriate, often uniseriate above and below and biseriate in the middle, narrow ellipsoid or fusoid, straight or curved, often inequilateral, granular, frequently with a small gutta in each end, brown, lighter in color at the ends, 20–27 x 6–7 μ.

On a dead tree of some species of *Populus*, Orient, N. Y., Sept., 1919, Roy Latham, no. 2073. The spores resemble in color and shape *Anthostomella calocarpa* Syd. in Baker, Fg. Malayana 503 but are twice as large and the gross appearance is also different. The perithecia when exposed by a section of the wood resemble those of *Endoxyla parallela*.

26. **Diaporthe Hamamelidis** sp. nov.

Perithecia growing under the outer bark and resting upon a thin reddish brown layer of tissue just over the wood, coalescent in groups or occuring also singly, globose conoid, with minute papilliform ostiola, dull black, about 300 μ in diam; asci clavate or cylindric, with a moderately long stipe, 8-spored, 100–125 x 10–14 μ, filiform paraphysate; sporidia fusoid, uniseptate, 4 globose-nucleate, constricted at the middle, biseriate, hyaline, 24–28 x 6–7 μ.

On dead stump of *Hamamelis virginiana*, Lyndonville, N. Y., June, 1918, C. E. Fairman. This is not well defined Diaporthe. A stroma is not evident unless the discolored surface be so considered, but the perithecia are often aggregated like Diaporthe and the spores are typical of that genus.

27. **Didymosphaeria Lonicerae riparia** var. nov.

Perithecia scattered, resting under the bark, becoming suberumpent, depressed spherical, 250 μ or more in diam., black; asci cylindric, rounded at the apex, 6–8 spored, 100–110 x 10 μ, filiform paraphysate; sporidia uniseriate, ellipsoid, obtusely rounded at the ends, uniseptate, constricted at the septum, when young with a prominent gutta in each half, brown, 14–17.5 x 6.66 μ.

On *Lonicera* sp., banks of Johnson Creek, Lyndonville, N. Y., June 16, 1918, Fairman, Wright and Gray. From *D. albescens* Niessl (*D. brunneola* Niessl) it is distinguished by the absence of any purplish or dark covering and larger asci and sporidia. From *D. Lonicerae Sacc.* in not having subacute spores. The length of the asci of this last species as given in Sylloge Fungorum, 1;711, viz., 188 x 8 may be a mistake.

28. **Melanomma nigriseda** sp. nov.

Perithecia thickly scattered but not forming a continuous layer, at times coalescent in small groups, adnate superficial or semi-immersed, seated on the blackened and crustose surface of wood cavities, globose or subconic, 250–260 μ in diam., flattened at the base, dull black, subshining at the apex, rough, with obtuse conic ostiola which are 60–70 μ broad at the base and 50–60 μ high; asci clavate, long stipitate, 8-spored, 140–160 x 7 μ; sporidia uniseriate, fusoid oblong, mostly curved, straight at times, 3-septate, slightly constricted at the septa, hyaline at first becoming pale brown, one gutta in each cell, 17–20 x 5.5–6.6 μ.

In cavities of Beech (*Fagus*) cut for firewood, Lyndonville, N. Y., July, 1918, C. E. Fairman. *Melanomma nigricans* E. & E. Proc. Acad. Nat. Sc. Phil., 1895, p. 417 is said to have perithecia "densely crowded forming a nearly continuous layer on the surface of the blackened wood." *M. nigriseda* has the perithecia scattered, at times quite thick, but never forming a continuous layer, and also has larger perithecia, different ostiola and larger asci. It may also be mentioned that the sporidia of *M. nigriseda* have end cells equal and each cell is 1-guttulate. The author has examined the structure of *M. nigricans* at the New York Botanical Garden.

29. **Leptosphaeria lyciophila** sp. nov.

Perithecia globose depressed, erumpent superficial, brown, 200–400 μ in diam.; asci clavate or cylindric, rounded at the apex, long stipitate, 8-spored, 65–85 x 7 μ, filiform paraphysate; sporidia biseriate, clavate, obtusely rounded at one end, attenuated and acute at the other, 3–4-septate, not constricted, hyaline at first, becoming greenish-hyaline then yellow, straight or more or less bent at the smaller attenuated end, 27–30 x 3–3.5 μ.

On dead stems of *Lycium vulgare* (Ait. f.) Dunal, Yates, Orleans County, N. Y., May, 1918, C. E. Fairman.

Leptosphaeria Lycii Pass. is said to have spores 12.5 x 5 and can not be this species. The clavate or rhopaloid spores of *L. lyciophila* should distinguish it readily from *Fenestella Lycii* Hazl. which sometimes appears like *Leptosphaeria* in its young stage. Apparently this species comes nearest to *Leptosphaeria sicula* Sacc. et Beltr. but differs in its unconstricted and perfectly clavate spores with fewer septa. It also differs in size of spores, and number of septa from *L. rhopaloides* Berl. and *L. helminthospora* (Ces.) DeNot.

30. **Leptosphaeria Hamamelidis** sp. nov.

Perithecia immersed, becoming erumpent superficial, gregarious or thickly scattered, globose or oblong and flattened, centrally ostiolate or papillate, of soft membranaceous texture, easily removable from the surface, but then more or less entangled with wood fibres, black when viewed with a lens, brown under the microscope, about 250 μ in diam., 100–120 μ in height; asci saccate, short stipitate, rounded at the apex, filiform paraphysate, 50 x 17.5 μ; sporidia irregularly tristichous or conglobate, rarely distichous, fusoid, 3-septate, 4-locular, the two middle loculi larger and globose, the end cells conoid, yellowish 20–24 x 6–7 μ.

On dead *Hamamelis virginiana,* Lyndonville, N. Y., July, 1918, C. E. Fairman.

31. **Leptosphaeria pseudohleria** sp. nov.

Perithecia scattered or gregarious, intermediately situated in the depressions between the longitudinal ribs of the stems, often on more or less discolored areas, erumpent becoming subsuperficial, globose depressed, opening by a minute rounded central pore, brown or black, 150–250 μ in diam.; asci ovate or saccate, sessile, rounded at the apex, straight or curved, 40–75 x 23–24 μ, sparingly surrounded by filiform paraphyses; sporidia irregularly biseriate or conglobate, oblong, 3-septate, constricted at all the septa but more deeply constricted at the middle septum, 4-celled, each cell with a large, shining, greenish when fresh, rounded oil-drop, readily separating in the middle, at least outside the asci, into two parts, one part shorter and broader, 10 x 7 μ, and the other part longer and narrower, 13.33 x 5.5–6 μ, brown or greenish brown, the complete undivided spore measuring 23.33–30 x 7 μ.

On old stems of *Typha latifolia* on the ground in a marshy place near a roadside brook, Lyndonville, N. Y., Oct. 1917, C. E. Fairman. When fresh the contents of the perithecia have a pale green tint upon crushing, the spores in the asci having also a greenish

cast, and outside the asci the nuclei retain their green color. These features are not marked in the specimens which have been in the herbarium for some time. Whether the spores subdivide in the asci could not be definitely determined. The subdivision is unmistakably in spores outside the asci. Species of *Leptosphaeria* subdividing outside the asci would seem to merit a genus by themselves. The genus *Leptosphaeropsis* of Berlese would not fit our specimen without emendation. When first found the specimen was included in our herbarium under *Ohleria*.

32. **Sporormia ourasca** sp. nov.

Perithecia gregarious, thickly scattered over the blackened surface of the wood, rarely sparse, often overlaid by straw, vegetable fragments and moist earth, sometimes two or three perithecia touching and becoming subcoalescent, globose, at times collapsing, at first covered with a white tomentum, becoming bare with age, superficial and prominent, although probably immersed at first, black, 750–1000 μ in diam.; asci oblong, the upper, spore bearing portion, flask shaped or obovate, contracting rapidly to a very long pedicellate, filiform stipe which frequently ends in a bipartite basal enlargement, 6 to 8 spored, 70–130 x 13.3 μ; sporidia 2-3-seriate or conglobate, oblong, guadrilocular, three septate, end cells globose-conoid, inner cells globose, often with a light colored band across some of the cells, ranging in tint from hyaline through indigo blue or olivaceous to dark brown or even opaque, 23–30 x 6.66 μ; paraphyses acute tipped, about as long as the asci.

On the under side of a pine plank in a meadow, immersed in a mixture of straw, grass and moist earth, Gambell Farm, Lyndonville, N. Y., May 24, 1918, C. E. Fairman. Easily distinguished by its habitat, and asci which are shaped like a spermatozoon or tadpole, and the long tail-like filiform stipe. This stipe in the shortest specimens is as long as the sporiferous portion of the ascus but usually is from two to two and one half times as long. This was made out, to avoid error, by Griffith's method, the use of Iodine solution. Said application of Iodine shows the sporidiogenic layer extending from the head of the ascus downwards into the prolonged stipe, showing the stipe to be a real stipe and not a stretched out fragment of the mucous coat. Furthermore the application of Iodine shows that the matured spores, at least when free from the asci, color blue throughout, or that the majority do, also that the paraphyses and mixed tissue around the asci stain a yellowish brown, while the sporidiogenic layer in the asci stains a darker brown, especially when viewed immediately after the application,

with blue glass in the substage of the microscope. The spores themselves seem to afford no features different from several previously described species of Sporormia. They are surrounded by a mucous zone, sometimes guttulate, the middle cells sometimes seem to overlap or to be obliquely connected. The perithecia may crack and fall away, leaving a base which is white from the probable remains of the contents. The wood underlying the fungi is found to be stained a reddish tint after the blackened surface is sliced off.

33. **Cucurbitaria rimulina** sp. nov.

Perithecia cespitose, erumpent through rimulae of the decorticated branches of the host, rarely more superficially seated upon brownish dematiaceous patches, sometimes sparse, black, globose, with papilliform ostiola which apparently become deciduous, and then the perithecia are preforate, about 250 μ in diam. asci 8-spored, clavate or cylindric, short stipitate, rounded at the apex, about 100 x 10 μ on an average, but very much longer ones occasionally seen, obscurely filiform paraphysate; sporidia oblong or obovate, 3-septate, constricted at the septa, one half of the spore generally larger and more rounded than the other, muriform, brown, 18 x 6.6–7 μ.

On decorticated branches of *Quercus rubra* L., Lyndonville, N. Y., April 5, 1919, C. E. Fairman.

34. **Gloniopsis Lathami** sp. nov.

Perithecia erumpent superficial, situated between the longitudinal ribs of the host stems, scattered, oblong fusoid, opening by a longitudinal cleft, black; asci clavate or cylindric, 8–spored, short stipitate, rounded at the apex, surrounded by numerous filiform paraphyses, 75–80 x 10–13 μ; sporidia oblong fusoid, 3–5–septate, one or more of the larger inner cells with one or two longitudinal septa, usually not very much constricted but occasionally so at the middle septum, hyaline or greenish hyaline, often surrounded by a mucous zone, 17–20 x 6–7 μ.

On dead stems of *Helianthus giganteus,* Orient, N. Y., May 12, 1918, Roy Latham, no. 1194.

35. **Gloniopsis Lathami asymetrica** var. nov.

Perithecia erumpent superficial, fusoid oblong, black, opening by a longitudinal cleft; asci clavate cylindric, rounded at the apex, short stipitate, surrounded by numerous filiform, nucleolate paraphyses which are often globose enlarged at the apices, 8–spored, 65–85 x 14–17 μ; sporidia biseriate, ellipsoid, 3–5 septate, constricted at the middle, obtusely rounded at the ends, one half larger and more obtuse, at first cribrose-guttulate, becoming muriform, hyaline, 17–20 x 7–10 μ.

On dead stems of *Lilium canadense,* Orient, N. Y., May 12, 1918, Roy Latham. Comes near *Gloniopsis culmifraga* (Speg.) Sacc. but asci and spores are larger, and no mention is made of the inequality of the sporidia in the description.

Species of Rare Occurrence or Otherwise Noteworthy.

36. **Lophiostoma excipuliforme** (Fr.) Ces. et DeNot.

The typical form was found on the bark of exposed roots of Acer, Lyndonville, N. Y., June 1908, C. E. Fairman. Ellis and Everhart in North Amer. Pyrenomycetes, p. 222 report the "we have seen no American specimens of the normal form, on bark of deciduous trees." Reported also by Prof. Dearness in Mycologia, 9:350 on maple bark, collected by S. H. Burnham at Hudson Falls, N. Y.

37. **Dinemasporium decipiens** (De Not.) Sacc. var. **Citri C.** Mass.

Fine specimens were found on a decorticated place on a living cultivated orange tree, Lyndonville, N. Y., Sept. 1917, Fairman.

38. **Zignoella macrospora** Sacc.

On a decorticated, fallen branch (probably of some species of Fagus) Lyndonville, N. Y., Oct. 1915, Fairman.

39. **Leptosphaeria Equiseti** Karst.

On dead stems of *Equisetum,* North Ridgeway, N. Y., Oct. 2, 1917, Fairman.

40. **Leptosphaeria Ailanthi** Karst. et Har.

On decorticated wood of *Ailanthus,* Lyndonville, N. Y., Apr. 1916, Fairman. Sec. Berlese, Icones Fungorum 1:58 this is *Leptosphaeria eustoma Ailanthi* Berl.

41. **Phomopsis Ailanthi** (Sacc.) Diedicke.

On Ailanthus, Lyndonville, N. Y., Oct. 1917, Fairman.

42. **Patellaria triseptata** (Karst.) Sacc.

On fallen branches of shrubbery, *Rosa* and *Lonicera* mixed, Lyndonville, N. Y., Oct. 1917, C. E. Fairman.

New Species, Series II.

Since the above descriptions were written the following additional species have been found.

43. **Clasterosporium larviforme** sp. nov.

Tufts indeterminately effused, forming a densely felted, velvety or fluffy, readily separable layer on the surface of bare wood, deep black; hyphae straight, rarely curved, septate, smooth or at times echinulate roughened, even, brown, attaining a length of 500 μ or upwards; spores variable in shape, oblong, ellipsoid, obovate to sigmoid incurved or ampulliform, 1 to 2 septate when young, becoming multiseptate (usually ranging from 6 to 12 septate), constricted at the septa, densely verrucose and hairy, brown to black, lighter at the ends, 20 x 10 μ when young, reaching at maturity dimensions of 40–110 x 14–17 μ, subsessile on the hyphae or borne on short, globose pseudosporophores, mostly pleurogenous, at times acrogenous; sporophores sometimes detached with the spores causing them to appear hyaline subpedicellate. Plate 22, figs. 1–5.

On the cut surface of old firewood, Lyndonville, N. Y., summer of 1920, Charles E. Fairman. This species seems to combine characters of *Heterosporium* and *Clasterosporium*. Specimens were submitted to Miss Annie Lorrain Smith of the British Museum who advised that it be included in *Clasterosporium*. The spores resemble in mode of origin those of *Clasterosporium cornutun* E. & E. which, according to the description in West Va. Geological Survey, Vol. V (A) p. 37, are said to appear "at first as a simple nodule or tubercle on the side of the thread." Under low powers of the microscope our species resembles a mass of larvae feeding on vegetable debris.

44. **Hendersonia foliorum hamamelidina** var. nov.

Leaf spots round, pale in the center, surrounded by a brown border, becoming deciduous; pycnidia globose or globose depressed, erumpent, black, up to 200 μ in diam.; spores fusoid or ellipsoid, attenuated at the ends, 2–4 septate, not constricted, subhyaline to very pale brown, lower cell persistently hyaline, inequilateral, straight or curved, 14–20 x 6–7 μ.

On leaves of *Hamamelis*, Burma Woods, Town of Barre, Orleans Co., N. Y., Oct. 7, 1920, Charles E. Fairman. This approaches *Stagonospora* but because the spores show color, though faint, it is placed in *Hendersonia*.

45. **Cladosporium punctulatum xylogenum** var. nov.

Hyphae long, flexuose, septate, often containing a series of globose oil drops, 5–7 μ in width; spores ellipsoid, 1–3 septate, brown, minutely punctulate roughened, 10–20 x 7–8 μ.

On the outside of a cigar box exposed to damp weather, Lyndonville, N. Y., Dec. 14, 1920, C. E. Fairman. Associated with

Epicoccum agyrioides Cda. *Cladosporium punctulatum* S. & E. has heretofore been found only on leaves.

Amblyosporiopsis gen. nov.

Sterile hyphae repent, simple or branching, septate; conidiophores erect, simple or branching, hyaline, dilated at the apices into subglobose, often facetted heads; conidia usually formed on the primary heads, occasionally on secondary or proliferate ones, (originating from minute sterigmata?), globose or ellipsoid at first, becoming subcuneate, bullet or shell shaped, truncate at the upper end, hyaline.

46. **Amblyosporiopsis parasphenoides** sp. nov.

Tufts effused, tawny or sublateritious; conidiophores simple or branched, hyaline, septate, averaging 13.5 μ in width, dilated at the apices into subglobose heads averaging about 24 μ in diam.; conidia when mature subcuneate or bullet shaped, truncate at the upper end, hyaline, 10–18 x 8–14 μ. Plate 21.

On bark of firewood, *Acer* sp., Lake Ontario Shore, Town of Yates, Orleans County, N. Y., April 28, 1920, Charles E. Fairman. The genus differs from *Amblyosporium* in having the conidiophores apically dilated into heads, and in spores truncate only at one end. The conidiophore heads are at times facetted and slightly angular at the junction of the facets. It seems as if Nature was here attempting to depart from globose conidiophore heads to those of a polyhedral type. Plate 21, fig. 1 a shows a facetted head, and fig. 2 a secondary or proliferate head sprouting up from a primary one. Spore truncation is apparently best observed in the outer and maturer spores of chains where they are least subject to pressure or crowding.

47. **Stemphylium subsphaericum** sp. nov.

Tufts effused, often overrun with white mucedinous filaments, cinereous or black; fertile hyphae repent, short, branching or anastomosing, hyaline, about 2.5 μ in width; spores acrogenous, subglobose, cruciate or sarciniform divided, constricted or indented, subhyaline at first, becoming black or opaque, 7.5–14 μ in diam. (averaging 10 μ in diam.).

On rotten wood, Palmer's Woods, Town of Ridgeway, Orleans County, N. Y., June 7, 1918, C. E. Fairman. *Stemphylium sphaericum* Sacc., according to the specimens in Baker's Fungi Malayana number 395 has round tufts or heaps and the spores are spherical, reticulately divided, almost opaque and measure 30 x 20–22 μ. The plant described above has an effused manner of growth and much smaller spores.

48. **Exosporium scolecomorphum** sp. nov.

Sporodochia flattened, pulvinate or punctiform, sometimes crowded into a more or less continuous layer, minute, black; spores ellipsoid when young, becoming cylindric or obclavate, rounded at the upper end, borne on stout, cylindric, short, straight or curved, septate, concolorous pedicels from 8 to 10 μ in length extending a variable distance above the surface of the sporodochium, straight or variously curved or bent, 2–16 (possibly 18) septate, not markedly constricted at the septa, red or vinous brown to brown, 24–75 x 10–14 μ. Plate 23, fig. 7.

On the under surface of an old rail, lying on the ground, Stroyan lane, Lyndonville, N. Y. June 16, 1918, Fairman, Wright and Gray. Mixed with the spores are numerous brown hyphae about 3.5–4 μ in width. The free spores are often without a pedicel.

Diseases of Cultivated Plants.

In a garden at Lyndonville, N. Y., two cultivated plants have been found affected by probably hitherto unreported fungus diseases. The first of these we formerly called phomose of the cinnamon vine. Later consideration, since this paper was prepared, enables us to state that it is not a true phomose but probably of saprophytic origin. The fungus found may be thus described:

49. **Phoma Dioscoreae** sp. nov.

Pycnidia thickly scattered on oblong, darkened areas of the stems, immersed then erumpent, black, 200–250 μ in diam.; spores ellipsoid, or subglobose, continuous, hyaline, 7–10 x 3.5–4 μ.

On stems of *Dioscorea batatas* Decne., cult., garden of Miss L. A. Weld, Lyndonville, N. Y., May and June, 1920, C. E. Fairman. Only by culture experiments can it be told whether this is the stem form of *Phyllosticta Dioscoreae* (Cke) Cke. or whether a distinct species is the cause of the affection. No *Phyllosticta* has been observed on the leaves of the diseased plants. *Phyllosticta Dioscoreae* (Cke) Cke may be found in Fungi Columbiani number 1445 on *Dioscorea villosa,* collected by L. W. Nuttall, at Nuttallburg, W. Va. In this the spores are rounded, irregular or ellipsoid, are not numerous and are filled with greenish hyaline granules. They measure about 7 x 4–7 μ. The pycnidia, 200 μ in diameter, are on definite spots. Ellis and Everhart in North American Phyllostictas give Cooke's spore measurements, viz., 8–10 x 3 μ. The second disease we are calling leaf spot of cultivated *Impatiens.* From early autumn until the occurrence of frost the leaves of a bed of

cultivated *Impatiens* bordering the affected cinnamon vine above described were found to be spotted and diseased. Infected leaves became weakened, discolored, languid and apt to fall to the ground. Plate 23, fig. 1 shows a leaf with the disease. Several species of fungi belonging to the genera *Discosia, Pestalozzia, Macrosporium* and *Cladosporium* seem to be associated with the spots. The most abundant parasite and probable cause of the affection is a *Discosia* which has the following characteristics:

50. Leaf spots small, round, oblong, angular or irregular, brown, surrounded by a purple or reddish purple border; pycnidia irregularly scattered over the spots, globose depressed, 100–200 μ in diam., black; spores fusoid, at first continuous, becoming triseptate, not markedly constricted, armed at each end with a curving filiform bristle 6 μ or more in length, hyaline, 12–14 x 3.5 μ. Plate 23, fig. 2.

This is referred to *Discosia maculicola* Ger. Along with the *Discosia* was found a fungus with the following characters:

Pycnidia (?) globose centrally ostiolate, 130–190 μ in diam., black; spores fusoid, 3–4 septate, slightly constricted at the septa, armed at one end with 3 spreading hyaline bristles, 6–7 μ in length, at the other end provided with a short, hyaline pedicel, hyaline, 15–20 x 3.5–5 μ. Plate 23, fig. 3.

Material was not sufficient to say whether this was a *Pestalozzina,* immature *Pestalozzia* or a *Bartalinia.* A true *Pestalozzia* was also found on the leaves. Plate 23, fig. 4. In this the spores are triseptate, the two inner cells dark brown and globose, the end cells conoid, hyaline, armed at one end with 3 bristles and at the other with a long hyaline pedicel, and measured 20 x 7 μ. Plate 23, fig. 5, represents the associated *Macrosporium* and fig. 6 the *Cladosporium.*

On leaves of cultivated *Impatiens* in the garden of Miss L. A. Weld, Lyndonville, N. Y., Sept. to Nov. 1920, C. E. Fairman coll. Lyndonville, New York.

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Explanation of Plates.

Plate 21.

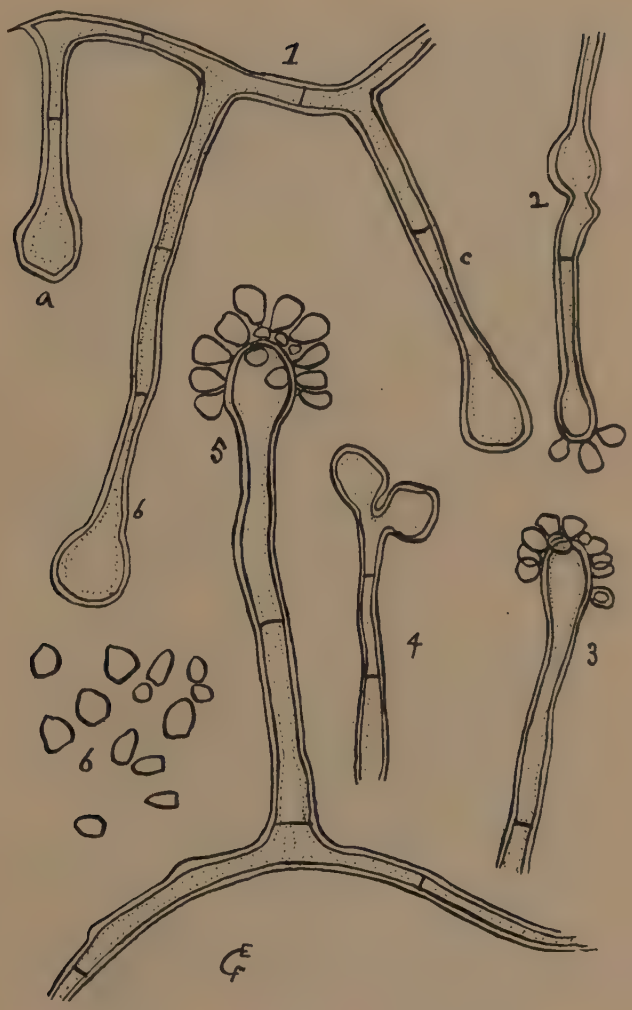
Amblyosporiopsis parasphenoides n. sp.
Fig. 1,a, a facetted head.
Fig. 1,b and c, the usual subglobose heads.
Figs. 2 and 4, irregular forms of conidiophorous heads.
Figs. 3 and 5, conidiophorous heads.
Fig. 6, a group of detached spores.

Plate 22.

Clasterosporium larviforme sp. nov.
Fig. 1, spores and hyphae, the latter showing the globose bodies from which the spores develop.
Figs. 2, 3, 4, detached spores.
Fig. 5A, an acrogenous spore.
Fig. 6, a camera lucida sketch of a spore more highly magnified.
Figs. 1, 2, 3, 4 and 5 from microphotographs by A. Tennyson Beals, 2929 Broadway, N. Y. City.

Plate 23.

Fig. 1. Leaf of Impatiens showing leaf spot disease. From a photograph by Irving E. Sill, Lyndonville, N. Y.
Fig. 2. Spores of Discosia.
Fig. 3. Spores of (Pestalozzina?)
Fig. 4. Spores of an accompanying Pestalozzia.
Fig. 5. Spores of Macrosporium.
Fig. 6. Hypha and spores of Cladosporium.
Fig. 7. A group of the spores of Exosporium scolecomorphum, n. sp.



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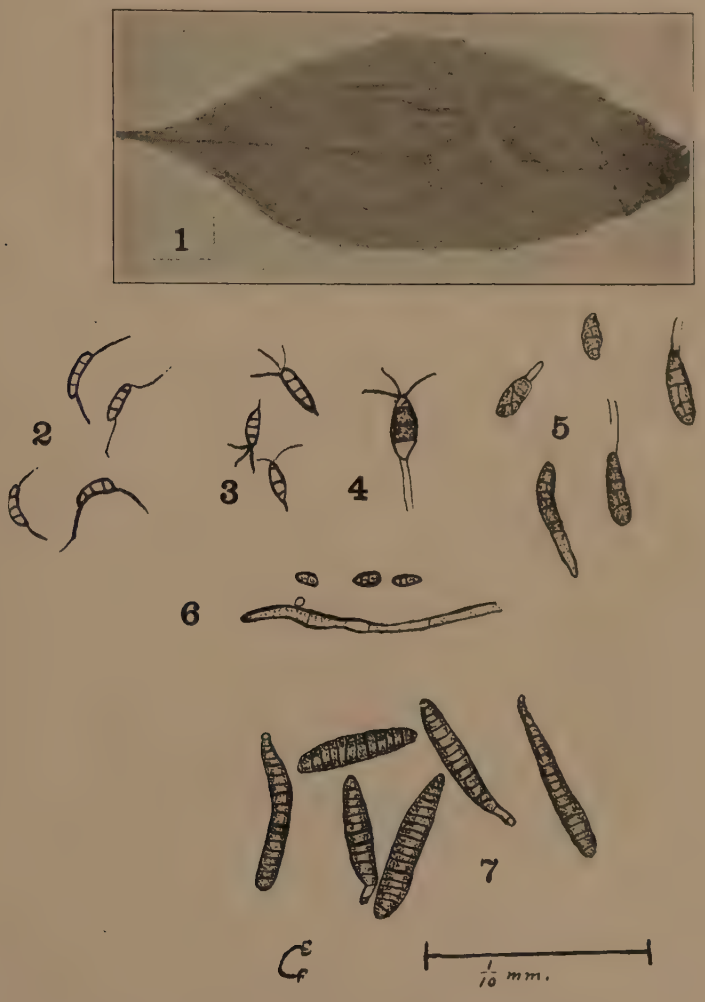

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